

Docket No. 0095.1054

DECLARATION UNDER 37 C.F.R. 1.132

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Ji Yong PARK et al.

Application No. 10/734,162

Group Art Unit: 2815

Confirmation No. 2087

Filed: December 15, 2003

Examiner: Jay C. Kim

For: THIN FILM TRANSISTOR WITH LDD/OFFSET STRUCTURE

Proposed Declaration Under Rule 132

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Dear Sir:

I, Ji Yong Park, have reviewed the above identified patent application, references, and arguments set forth in the Office Action and declare as follows:

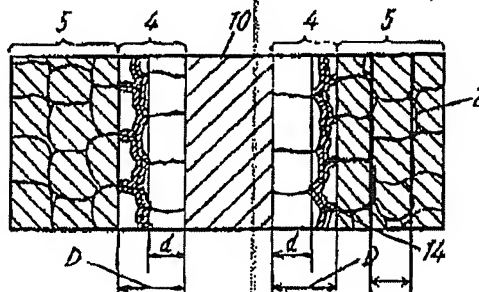
1. I have received Ph.D. degree in material Eng. from KAIST and have 10 years of experience in the field of TFT display device and am aware of the state of the art from the time of 2000 and 2010.
2. I have reviewed and understand the references, the claims, and the arguments in the Office Action;
3. I have found that Oka et al. (U.S. Patent No. 6,184,541) does not teach "a width of each one of the offset regions is smaller than a distance between the primary crystal grain boundaries formed in the channel region," as recited in independent claim 1 nor does Oka teach "a width of the offset regions, is smaller than a distance between the primary crystal grain boundaries," as recited in independent claim 7. Furthermore, Oka does not teach "a width of the LDD region or offset regions is less than a distance between two adjoining primary crystal grain boundaries," as recited in independent claim 6. Finally, Oka does not teach that "a width of the LDD region or offset region is less than a distance between two adjoining primary crystal grain boundaries" as recited in claim 12 of the present application. Accordingly, Oka does not teach the features of independent claims 1, 6, 7 and 12 for the following reasons:
 - a. Oka does not disclose an offset region. Oka discloses a TFT including a source 6 and a drain 7, each having a low concentration region 4 and a high concentration region 5. Accordingly, Oka at most teaches an LDD

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region, but not an offset region as recited in the independent claims. Therefore, Applicants respectfully assert that Oka fails to teach or suggest the novel features recited in independent claims 1, 6, 7 and 12.

- b. The length of the LDD region in Oka is longer than the distance between two boundaries of crystal grains. The Office Action notes that mark "d" of Oka corresponds to a length of the LDD. However, "d" is an effective length of the LDD region and is different from a general length of the LDD region.
- c. According to the specification of Oka, (column 2, lines 15-19) the effective length of the LDD region is different from the length of the LDD region.
- d. As noted in FIG. 1d of Oka, the length of the LDD region is longer than the distance between the boundaries of crystal grains shown below. Therefore, Applicants respectfully assert that Oka fails to teach or suggest the novel features recited in independent claims 6 and 12.



Length of the LDD region Distance between grain boundaries

Fig. 1d of Oka

- e. Generally the length of the LDD region refers to an actual length of a doped region, while the effective length of the LDD region refers to an electronic length of the LDD region. One of ordinary skill in the art uses the term 'length of the LDD region' to refer to the general length of the LDD region. Accordingly, region "d" is the effective length of the LDD region and not the general length of the LDD region as recited in the independent claims.
- f. Therefore, Oka does not disclose that a width of each one of the LDD region is less than a distance between two adjoining primary crystal grain boundaries, as recited in claims 6 and 12.

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The Declarant further states that the above statements were made with the knowledge that willful false statements and the like are punishable by fine and/or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that any such willful false statement may jeopardize the validity of this application or any patent resulting therefrom.

By: Gi Yung ParkDate 14/05/2010